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**OU#4-REMOVAL #4 K-65 BORINGS
U.S. DOE FERNALD
OHD 890 008 976**

8-27-90

**USEPA/DOE
3
LETTER**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

2456

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:

Mr. Bobby Davis
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

SHR-12

RE: OU#4-Removal #4
K-65 Borings
OHD 890 008 976

On July 26, 1990, the United States Department of Energy (U.S. DOE) submitted a proposal for soil borings and sampling under the silos. This activity is part of the remedial investigation (RI) for operable unit #4 and also supports removal action #4 for the K-65 silos.

The United States Environmental Protection Agency (U.S. EPA) has reviewed this proposal prepared by Advance Sciences, Inc. and International Technologies (ASI/IT) and has the following comments:

GENERAL COMMENTS

1. The sampling plan provides a reasonable approach to obtaining soil samples from beneath the K-65 silos. However, it should be noted that auger borings at very low angles (i.e., 8 to 12 degrees) is very unconventional and may prove very difficult to complete.
2. The sampling plan does not provide specific details to accurately describe the activities needed to meet the objectives of the sampling plan. Areas of the sampling plan that require additional information are listed below in the specific comments.

SPECIFIC COMMENTS

1. Section 1.2.1, page 2, paragraph 2: The required drilling angle for each borehole can be determined prior to setting-up the drill rig and should be stated in the sampling plan. This information is needed to evaluate whether the sampling depths are appropriate to provide sufficient information to meet the sampling objectives. For example, using the information listed for Boring 3 in Table 1 of the sampling plan, it appears that the boring will pass 8.25 feet beneath the silo footer not 3 feet as shown on Figure 1.
2. Section 1.2.2, page 2, paragraph 1: The type of screening instruments should be explicitly stated in the sampling plan. In addition, it is suggested that a flame ionizing organic vapor analyzer be used instead of a photo ionizing organic vapor detector. Screening instruments which use photo ionization are sensitive to several interferences (eg.

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moisture, ionization potential of contaminants) and may not yield reliable screening results.

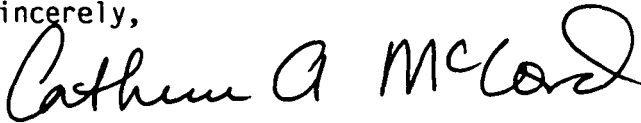
3. Section 1.2.2, page 2, paragraph 1: The report does not clearly state how samples will be screened for radiation and organic vapors. It appears that the "tenite sleeves" are similar to shelby tubes and do not allow direct access to the sample. This will impede proper and adequate screening and logging of the sample.
4. Section 1.2.2, page 3, paragraph 1: The sections of core to be sampled as specified in the sampling plan contradicts early statements that samples will be collected at regular intervals as well as selected based on screening results. Therefore, it is recommended if the first 2.5-foot length of core screens high for radiological parameters it should be sampled for radiologic parameters not chemical parameters as stated.
5. Section 1.2.2, page 3, paragraph 1: The numbering system used to identify samples should be presented in this section. This will aid EPA in reviewing the analytical data once it is available.
6. Section 1.2.2, page 3, paragraph 4: The vibra core sampling of the berms surrounding the silos was not discussed in the K-65 internal contents sampling plan. This plan should provide more detail concerning the purpose of the vertical borings, sample frequency, and required analysis.
7. Section 1.3, page 4, paragraph 1: TCLP organics should also be included in the analysis of samples. This information is needed to determine it's regulatory status for any remedial action.
8. Section 1.4, page 4, paragraph 1: The sampling locations shown on Figure 1 of the sampling plan indicate that no samples will be collected from the embankment. Additional samples should be considered because several possible remedial actions depend on the geotechnical properties of the embankment soils.
9. Table 1, page 7: The minimum number of samples to be collected is misleading. The actual number of samples to be collected from beneath the silos is 13 not 28 as implied in Table 1. Typical subsurface soils investigations require the collection of soil samples at a frequency of every 5- or 10-feet. In addition, the nature of the till beneath the silos suggests that the distribution of contaminants will be very irregular; therefore, the sampling plan should provide justification of a 20-foot sampling interval.
10. Table 2, page 8: As stated earlier TCLP organics should be added to the list of analytes.
11. Table 2, page 9: The holding times listed for the "full HSL" parameters are excessive. Special handling and priority should be given to these samples so data of sufficient quality can be generated.



12. Table 2, Page 9: The table lists the minimum sample weights per set of analyses (i.e., full HSL). This seems to imply that samples will be collected and shipped to the laboratory in single large containers. Soils for specific analyses should be placed in separate containers. This is required by the RI/FS Work Plan and acceptable contract laboratory program procedures. 2456

If you have any questions please call me at (312) 886-4436.

Sincerely,



Catherine A. McCord
Remedial Project Manager

cc: Richard Shank, OEPA
Graham Mitchell, OEPA - SWDO
Leo Duffy, U.S. DOE - HDQ
Joe LaGrone, U.S. DOE - ORO